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Materials to the helminth fauna of hedge-hogs *Erinaceus roumanicus*
Barrett-Hamilton

Materiały do helmintofauny jeży — *Erinaceus roumanicus*
Barrett-Hamilton

In spite of numerous elaborations concerning the helminth fauna of insectivorous mammals in this country (Sołtys 1952, 1954, Furmaga 1959, Rybicka 1959, Żarnowski 1955, 1960), hedge-hog, as a representative of this group of animals, in the helminthological investigations was almost completely omitted. In the domestic literature the internal parasites of hedge-hogs are mentioned only in the works of Ruszkowski 1925 and Łukasik 1939, who investigated two specimens of this host each. That is why I consider it suitable to publish the results of my investigation which is a supplement to the study concerning the helminths of insectivorous mammals; moreover, my results differ slightly from those of other authors (Hörning et Rosenfeld 1959, Lungu et Radulescu 1957, Prokopič 1957, 1959).

The material for the present study was collected in the Lublin Palatinate, and constitutes of 14 hedge-hogs (*Erinaceus roumanicus* Barrett-Hamilton) in which 7 parasite species were found. The total percentage of invasion is fairly high, because there were 9 hedge-hogs (64%) invaded with parasites. The most common worms were nematodes, found in 8 out of 9 invaded animals; 3 hedge-hogs were invaded with trematodes, 2 animals were parasitized with cestodes, and only one animal was harbouring thorny-headed worms.

Out of 7 parasite species, nematodes were represented by 4 species, out of which *Capillaria erinacei* (Rudolphi 1819) Travassos 1915, *Physaloptera clausa* Rudolphi 1819 and *Crenosoma striatum* (Zeder 1800) Molin 1867 occurred most often, and the intensity of invasion with these species was fairly high. Beside, 1 trematode species, 1 cestode species, and 1 acanthocephalan species were found; the intensity of invasion with those species was medium numerous (Table I).

The occurrence of polyspecific invasion in one host was stated in 5 cases, but the species ensembles of worms were not numerous. Only 3 hedge-hogs harboured 3 parasite species, 2 animals were invaded with 2 worm species, and the remaining 4 specimens were invaded by only one parasite species.

Table 1
Extensiveness and intensity of invasion of hedge-hogs

Parasite	Number of		Intensity
	examined	invaded	
<i>Euparyphium melis</i>	14	3	9 - 25
<i>Hymenolepididae</i>	14	2	6 - 20
<i>Gongylonema mucronatum</i>	14	1	2
<i>Physaloptera clausa</i>	14	4	1 - 25
<i>Crenosoma striatum</i>	14	2	4 - 200
<i>Capillaria erinacei</i>	14	5	2 - 250
<i>Nephridiorhynchus major</i>	14	1	7

TREMATODA

Euparyphium melis (Schränk 1788) Dietz 1909

Synonyms: *Fasciola melis* Schränk 1788, *F. putorii* Gmelin 1791, *F. trigonocephala* Rud. 1802, *F. armata* Rud. 1802, *Distoma melis* (Schränk 1788) Zeder 1800, *Echinostoma trigonocephalum* (Rud. 1802), Cobbold 1861, *Echinostomum melis* (Schränk 1788) Dietz 1909, *Isthmiophora melis* (Schränk 1788) Lühe 1909.

E. melis was found in the stomach, duodenum, and small intestine in 3 out of 14 investigated hedge-hogs. The trematode species found in those hosts did not show any morphological differences when compared with the literature. Only a more massive body structure occurred.

CESTODA

It was impossible to determine a distinct systematic position of the tapeworms, because in the total preparations no internal structure was observed. However, it seems to me that all the specimens found in both hedge-hogs belong to same species; judging from the structure of the scolex and the general shape of strobila, they belong to the family *Hymenolepididae*.

The length of the strobila fluctuated within the limits of 2.2 — 21 mm., maximal width was 0.52 mm. A small scolex is heart-shaped, its top is directed toward the front, and the maximal width (0.079 mm.) is at the base of the scolex. Distinctly visible rostellar pouch has the length of 0.242 — 0.258 mm., its width is 0.112 mm. Rostellum not armed. Big suckers with a good musculature have a diameter of 0.249 mm. All the segments, regardless the maturation stage, are always wider than long.

In the literature, in hedge-hogs only two tapeworms, belonging to the family *Hymenolepididae* and to the genus *Rodentolepis* Spassky 1954, are so far known. These are: *R. erinacei* (Gmelin 1789) Spassky 1954, and *R. steudeneri* (Janicki 1904), which, however, are considered by Spassky 1954 as one species, *Rodentolepis erinacei*. Taking into account the data from the literature and the fact that the specimens found by me belong undoubtedly to the family *Hymenolepididae*, it seems to me that I was dealing with one of the above mentioned species.

NEMATODA

Gongylonema mucronatum Seurat 1916?

Synonym: *G. pulchrum* Seurat 1912 et 1914, nec Molin 1857.

Two specimens of that nematode were found in the posterior part of oesophagus in one of 14 investigated hedge-hogs; both nematodes were immature females.

The length of the body fluctuates within 21—30 mm., maximal width is 0.189 mm. The front part of the body is ornamented with cuticular plate arranged in irregular longitudinal rows. Oesophagus is 4.38—5.15 mm. long and consists of two parts: a short anterior, and a very long posterior part. Vulva arranged in the posterior part of the body, 1.26—1.99 mm. from the posterior end of the body. Ovejector is long, strongly muscled, distinctly visible. Bluntly terminated tail is 0.189—0.210 mm. long. Eggs were not observed. The lack of males limits the possibility of an identification of these nematodes. The literature reports the occurrence of only one *Gongylonema* species (*G. mucronatum*) in hedge-hogs; therefore it seems to me that I was dealing with just this species.

G. mucronatum was found for the first time in Poland.

Physaloptera clausa Rudolphi 1819

These nematodes were found in the stomach of 4 out of 14 investigated hedge-hogs. The morphological characters of these nematodes totally correspond to the descriptions of this species in the literature.

Crenosoma striatum (Zeder 1800) Molin 1867

Synonyms: *Strongylus striatum* Zeder 1800, *Filaria erinacei* Rud. 1819, *Strongylus erinacei* (Rudolphi 1819) Diesing 1851.

C. striatum was found in the trachea and bronchi of two hedge-hogs.

Capillaria erinacei (Rudolphi 1819) Travassos 1915

Synonyms: *Trichosoma erinacei* Rudolphi 1819, *Trichosoma* sp. Bellingham 1845, *Trichosoma exiguum* Dujardin 1845, *Capillaria erinacei europaei* Diesing 1851, *Aonchotheca erinacei* (Rudolphi 1819) Lopez-Neyra 1946.

Nematodes of this species were found for the first time in Poland in oesophagus, stomach, duodenum, and small intestine of 5 out of 14 investigated hedge-hogs. The found specimens totally correspond to the characteristic of this species.

ACANTHOCEPHALA

Nephridiorhynchus major (Bremser 1811) Meyer 1931

Synonyms: *Echinorhynchus major* Bremser 1811, *Giganthorhynchus major* Porta 1908.

These acanthocephalans were found for the first time in Poland in the small intestine of one hedge-hog.

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STRESZCZENIE

Autor zbadał 14 jeży wschodnich (*Erinaceus roumanicus* Barrett-Hamilton), pochodzących z terenów woj. lubelskiego, z których 9 egz. opadniętych było pasożytami. Ogólna ekstensywność zarażenia tych żywicieli jest dość duża i wynosi 64%.

Łącznie stwierdzono 7 gatunków pasożytów, spośród których nicienie występowały najczęściej, bowiem reprezentowane były przez 4 gatunki, a intensywność inwazji nimi była również dość wysoka. Poza tym stwierdzono jeden gatunek przywry, 1 gatunek tasiemca i 1 gatunek kolcogłowa (tab. I.).

Występowanie różnogatunkowej inwazji u jednego osobnika stwierdzano w pięciu przypadkach przy czym zestawy gatunkowe robaków były nieliczne.

